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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/598,105	06/21/2000	Bradley M. Abrams	MS154749.1/40062.75-US-01	7343
23552	7590	01/26/2004	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			ZHEN, WEI Y	
			ART UNIT	PAPER NUMBER
			2122	16
DATE MAILED: 01/26/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

PL4

Office Action Summary

Application No.

09/598,105

Applicant(s)

ABRAMS ET AL.

Examiner

Wei Y Zhen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 16-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3, 17, 21-23 and 25 is/are allowed.
- 6) ☒ Claim(s) 2, 4-6, 16, 18-20 and 24, 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed on 12/15/2003.
2. Claims 2, 4-6, 16, 24 are rejected.
3. Claims 3, 17, 21-23, 25 are allowed.
4. Claims 18-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
5. Claim 26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-20, 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 recites "...the common language file *maybe* imported by different source language files." It can not be determined whether the common language is imported by different source language file or not, therefore, the claim is vague and indefinite.

Claim 19 recites "...the common language file *maybe* imported by a procedural source language file". It can not be determined whether the common language is imported or not, therefore, the claim is vague and indefinite.

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Claim 20 recites "...the common language file *maybe* imported...". It can not be determined whether the common language is imported or not, therefore, the claim is vague and indefinite.

Claim 26 recites "...the common language file *maybe* consumed.." at line 14. It can not be determined whether the common language is consumed or not, therefore, the claim is vague and indefinite.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2, 4-5, 16, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Blickstein (USPN, 5,557,253).

As per claim 2, Blickstein discloses

A metadata module that compiles information to produce metadata information (col. 10 line 34 to col. 12 line 62 , "The internal representation")

A code module that compiles information to produces executable instructions (Fig. 1 "executable image")

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Wherein the front end compiler consumes information from a native source code file and metadata information produced by the front end compiler (col. 9 line 4 to col. 10 line 31 and Fig. 1 shows that front end compiler 20 consumes information from source code 21 and ILG 55).

As per claim 4, Blickstein discloses

A plurality of front end compilers, wherein each front end compiler is associated with a native source code language and wherein at least one front end compiler is associated with a different native source code language than one other front end compiler (col. 3 lines 8-13).

Each front end compiler compiles common language information in addition to native source code (col. 3 line 8-17)

Each front end compiler produces a common language file that can be consumed by a runtime environment that is targeted for a particular machine (col. 3 line 8-35).

As per claim 5, the rejection of claim 4 is incorporated and further Blickstein discloses

Wherein the runtime environment comprises a loader for loading the common language file and determining the layout for classes and objects used at runtime (col. 2 lines 29-55 and Fig. 2 and its associated discussion in the specification, note that when various run-time modules are added, the layout are inherently determined).

As per claim 16, Blickstein discloses

A common language library describes functions for use in other programming language files (col. 3 line 8-17)

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The common language library represented in a common language (col. 8 lines 8-35), and wherein at least one of the programming languages is written in one native source code language and at least one other programming language file is written in a different programming language (col. 3 lines 8-13).

As per claim 24, Blickstein discloses

Determining that the source language file has an import statement relating to common library file (col. 24 line 65 to col. 25 line 6).

Reading information from the common library file into a symbol table (Fig. 1, "symbol table").

Compiling the source language file using the symbol table (col. 26 line 65 to col. 27 line 24, Fig. 1, "symbol table").

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable over Blickstein (USPN, 5,557,253).

As per claim 6, the rejection of claim 5 is incorporated and further Blickstein discloses

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A stack walker that keeps track of a call stack (col. 11 line 60 to col. 12 line 15, "call back routine").

A garbage collector for managing memory allocation (col. 12 lines 31-62).

Blickstein does not explicitly disclose performing the above step during runtime.

However, Official Notice is taken that keeping track of a call stack and manage memory allocation during runtime were well known in the art at the time the invention was made. Therefore, it would have been obvious to perform the steps of Blickstein during runtime because one would want to manage and optimize the execution of a program efficiently.

Allowable Subject Matter

9. Claims 3, 17, 21-23, 25 are allowed.

Claims 18-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 26 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The cited prior arts taken alone or in combination fail to teach, in combination with claimed limitations, the front end compiler consumes metadata information produced by a different front end compiler as a result of compiling a source file in a second language as recited in independent claim 3; the cited prior arts taken alone or in combination fail to teach, in combination with claimed limitations, if the statement relates to the common language file,

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reading the common language file into a symbol table, if the statement relates to a native language symbol table entry, adding the information into the symbol table, and if the statement relates to output generation, supplying the statement to a output generator as recited in independent claim 17; the cited prior arts taken alone or in combination fail to teach, in combination with claimed limitations, a common language instructions section having instructions in a common language, the instruction relates to the written program functions of the native source code file and consumed metadata, wherein the metadata describes written program functions of another native source code language file, the common language used to represent the written program functions is adapted to represent written program functions originally written in at least two different source code languages as recited in independent claims 25 and 26.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wei Y Zhen whose telephone number is (703) 305-0437. The examiner can normally be reached on Monday-Friday, 8 a.m. - 4:30 p.m..

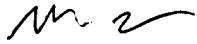
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

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Wei Zhen
Primary Examiner
1/22/2004